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inches in diameter, was hacked out. The piece of wood was brought back to the settlement and the whole morning was spent in hacking it down to the proper size. First a cutlass was used, then a wooden-handled knife. A series of hacks or cuts about one-half inch apart was made along the surfaces to be reduced. Then the wood was reduced by a shaving motion of the blade. The afternoon was spent in smoothing down the wood to an oval shape. For this purpose the edge of the knife was used as a scraper, as well as an old cassava grater. Great care was spent in getting the proper taper, and the balance and resiliency of the bow were tested by frequent flexions. Then the ends were determined, with due regard to symmetry, and the pegs whittled at the head and foot. The next morning was spent in making the groove in the back with a broken piece of mirror glass. Then the bow was smoothed all over with a purumo leaf, which is rough and approximates the action of sand paper. Following this the bow was taken down to the creek and placed in the water, where it was left for three days to be seasoned. On the fourth day it was removed and rubbed all over with aporokune gum, which is said to toughen it as well as improve its appearance. Then it was strung.[1]

The bow string is made of the fibre of the kraua grass, (*Bromelia* sp.) which is specially cultivated in the fields for this purpose. The long semi-stiff leaves are shredded through a loop of string attached to a post of the house, as described by Roth[2]. The fibre is then spun into three-twine string by rolling it on the thigh.

Arrows are of several types, but each consists of the following parts (Plate 3, *b*). The head (piatura) is, in these days, made of an old piece of iron, usually a discarded cutlass filed down to the proper shape, or of wood. The epuru is the small piece of wood into which the base of the head is set; on harpoon types the epuru end is pointed and fits into a socket at the base of the head; it is usually made of wawkonse wood. The epuru is set into the end of the hollow shaft (*mapuru*), which is made from a reed-like plant cultivated in the fields for this purpose and called by the Caribs mapuru epui (*Gynerium saccharoides*). The shaft is usually split in receiving the epuru and must be bound around with fine kraua

[1] Bow, urapa; head, apono; foot, opinyoni natari; bow string, urapa'amoti; strengthening string, shyatumamoti.

[2] Roth, 1924, *An Introductory Study of the Arts, Crafts, and Customs of the Guiana Indians*, p. 114.

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411 string (binding, epu miotopo). For feathering the arrow (puliwa
284 epawriri) the wing feathers of the powis (*Crax sp.*) are used. Two
824 feathers are employed for each arrow, one for each side. The two
[237] feathers are laid on the ground side by side and the spines cut away from the central rib of each feather on the interior side, so that the two "half-feathers" remaining complement each other. The central ribs are not split. The two feathers are then bound on opposite sides of the shaft with their long axes parallel to the long axis of the shaft, so that when viewed broadside both present the same surfaces of the original feathers. Fine kraua twine or cotton yarn is used for binding, cotton being preferable; each feather is bound to the shaft in five places, (feather binding, epawriri miotopo). The knock (yesendano) is made of wawkonse wood and is set into the split end of the shaft which is bound about with cotton thread (knock binding, ityo miotopo).[1]

[381] On those arrows which have removable or harpoon heads, the recovery cord is fastened to the head by kraua binding and a glue made of mani gum (*Moronobea coccinea Aubl.*). The recovery cord is called towoto poyamoti.

411 To straighten the shaft of an arrow, it is held over fire and bent into shape with the hand without the help of other apparatus.

The arrow release is between the thumb and first joint of the first finger (Plate 4, *a*). The arrow shaft is always held on the left side of the bow between the second and third fingers of the left hand.

A bow is between four and six feet long (Plates 4, *b* and 5, *a*), and the arrows are usually of approximately the same length. The feathered part of the shaft is four to five inches long and the head of the arrow ranges between six and twelve inches. Figure 2 shows the more common types of arrow heads.

The aranseta (Fig. 2, *a*) is a plain laurel-leaf point.

411 The rapa (Fig. 2, *b*) is used for hunting hog and is provided with
224 a transverse peg of wood at the base of its leaf-shaped point. This peg serves as a stop so that the arrow immediately comes out after the quarry is hit and is not broken while the hog thrashes about in the underbrush.

The takoshi (Fig. 2, *c*) is provided with one deep barb on one

113 [1] For South American distribution of this method of strengthening the arrow-butt, see Nordenskiöld, 1924, *The Ethnography of South America seen from Mojos in Bolivia.*

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224 Bush cow (Carib, maipuri; *Tapir Americanus*).
136 Birds of the following varieties, particularly:
262
Powis or bush turkey (*Crax* sp.).
Mamm (tinamou).
Dukwaru or djokoro.
Wicissi ducks.
Cock of the Rock (Carib, unknown to author; *Rupicola elegans*).

Bird eggs (particularly mamm eggs).
Rats.

262 The tchiri, a white worm which lives in the pith inside the stem
136 of the turu tree, is fried on the cassava pan and eaten. The kom-
252 buru worm which lives in decaying wood is also eaten. The Caribs do not eat tiger, snake, camudi (water snakes), monkey, chicken hawk, or "crows" (vultures). Abstinence from these forms of animal food is based on tribal taste and has no religious significance.

Kushie ants are occasionally consumed. They are parched on
[825] the cassava pan and the abdomens are eaten. There is a long white worm which is always found in a kushie ant hill, called by the Indians two-headed, because the tail closely resembles the head. It is said to be the "mother of the ants," makoyumo (probably *Amphis baenae*). The muro frog, whose quacking sound is regarded as a sign of rain, is sometimes eaten and is said to taste like "young fowl."

The magico-religious beliefs and practices concerned with hunting will be taken up in the chapter on religion.

Methods of skinning the "accouri" are as follows: An incision is made from the neck to the sexual opening; branching incisions are then made to remove the hide of each of the legs; an incision is made encircling the neck; and the whole skin excluding that of the head is removed in one piece. The head is severed from the body, the abdominal cavity is opened by a sagittal incision in its anterior wall and the contents of the cavity are removed. The carcass is then dismembered for cooking. Essentially the same method is used for other fur or hair-bearing animals.

226 **Fishing.** European fish hooks are obtained in trade. If these
[177] are unavailable, hooks are made from common pins or from a
824 certain thorny bush of the jungle. Fish rods of yarriyarri (*Anaxa-*

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gorea sp.) are the most common; the line is made of kraua fibre. Rod fishing is most commonly done from korials, although frequently little boys amuse themselves by fishing with a rod from the bank. Each night a man, if his settlement is near the river, puts out a set line, to which are attached several hooks. These set lines are stretched across the river, fastened at either end to a stake of yarriyarri set in the water near the shore. Usually each hook has to be visited in a korial, although some more ingenious members of the tribe, perhaps through outside suggestion, have rigged up pulley arrangements at the opposite shore so that the line can be set and pulled in by a man standing on the bank.

Fish are also shot with arrows of the types, described above, especially made for the purpose. This seems to be a method very rarely used at the present time, and during my sojourn in the Carib country I saw it employed only twice. The men say that fish shooting is difficult because of the vegetable stain in the water which reduces visibility, and is only effective near rocks where the marksman can gain a steady perch high enough above the water to see the game.

The most productive fishing method is poisoning. The haiari root (? *Lonchocarpus* sp.) is the most generally used poison on the Barama. Two varieties are recognized, the "black haiari" (? *L. densiflorus*) and the "white haiari" (? *L. rufescens*). The former is the most commonly found and oftenest used for fish poisoning. The two other fish poisons generally used in the Barama country are konami (? *Clibadium* sp.) and wa'u (Creole, mora balli). Other poisons used in the Guianas are mentioned by Roth, but I have failed to find evidence of their use in this area

The river itself, as well as practically all of its tributary creeks, is regularly poisoned, although I understand that this practice is forbidden by colonial law because of the devastating effect which it is supposed to have on the fish supply. As one proceeds up the Barama one is impressed by the fact that across the mouth of almost every creek stands a wickerwork fence of nibi (a bush plant which is also used in making basketry), a sure sign that the creek has been poisoned, because the fence has been placed there to catch the dead or stupefied fish as they float downstream under the influence of the poison. When it is decided to poison a creek or river, the whole settlement usually turns out and the affair is

cassava cakes. The baked starch is called sipipya keipyo or mimyi. The preparation of cassiri and paiwari is described in the section on stimulants.

Plantains (parurune) of two varieties are grown in the fields. The aratan is comparatively small and is distinguished by the fact that the trunk of the tree is black. The taposa has a long thick fruit and a gray trunk. In planting, suckers are taken from the root, put in a hole made with the digging stick, and covered with earth; sometimes wood ashes are put in the bottom of the hole beforehand. The tree bears fruit about ten months later. Both men and women cooperate in the planting, although only men pick the fruit which is detached from the tree in large bunches like bananas. The fruit may be eaten raw when it is ripe, that is, when the outer skin is yellow. Both ripe and green plantains are boiled. Green roasted plantain is a great delicacy; the skin is removed and the fruit placed in the ashes of the fire; when finished it is split and spread with grease or gravy and eaten with the hands. Finally, the green plantain may be grated raw and baked into a thin cake on the cassava pan. A plantain leaf is laid on the pan before the moist mash is spread for baking. The leaf is also in constant use as wrapping material, to wrap cassava cakes, to cover loads in walishas (carrying baskets), and for all purposes in which wrapping material is required.

Bananas (paruru) are planted in the same way as plantains and bear in about the same length of time (ten months). Ten varieties are distinguished: the small red banana is called maripyemyu and bears early; the large yellow type is called idinyuku; the largest reddish banana (kyasakore), bears earliest of all the varieties, is black when ripe, and is used mostly for roasting; the large yellow variety is called wepyunsokai and ripens in the middle of the season; the small sour reddish banana, called "sour fig" by the creoles, is called sari arya by the Caribs and is distinguished from the maripyemyu by its tart flavor; the greenish type (ipitakamapo), known as the "apple banana" and the "Cayenne banana" to the creoles, is usually boiled; the black banana is called mekorumyo; the stubby green type is called mutuku; and the medium red variety rejoices in the name of pomere or pomede.

Four varieties of pineapple (nana)[1] are grown: kashushipyopo,

[1] *Ananas sativa.*

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largest and juiciest; ekupu, slightly smaller than the preceding type; toshiare, long and thin, the sweetest of the four types; kuyarimyo, longer, thinner, and slightly sourer than toshiare. In planting, shoots are taken from the roots of mature plants and put in holes made in the ground with the digging stick. The plant bears in about a year after planting. The fruit is picked when it is yellow, and the skin removed with a knife. The fruit is mostly used to make an alcoholic drink called tanemu, the pulp being grated into a juicy mash and allowed to set for several days after having been mixed with water. Occasionally the ungrated fruit is eaten raw.

Three varieties of yams (napoi)[1] are known to the Caribs; apotonongnapoi, the large white yam; tawimididishye, the small white yam; tupununapoi, the purple yam. They may be planted at any time of year and ripen in ten to eleven months, i.e. when the leaves die. For food they are eaten boiled, after being peeled. A drink, napoishuru, is also made from yams, as described in the chapter on stimulants.

Tanyas and eddoes are also grown in the fields and are boiled in the pot after being peeled.

Sugar cane grows in every field. It is planted by inserting a shoot into a small hill of loose earth. It is eaten as a confection, being chewed like a stick of candy after the outside bark has been removed. The juice is also expressed in the cane mill (Plate 8, *b*) and used as an ingredient in cassiri and other alcoholic drinks.[2]

Two types of "punkin" or squash (wayoma) are to be found in Carib fields: apotono wayomo, large and spherical; takunshishe wayomo, long and thin, with flesh drier and of superior flavor. The squash is planted from seed and bears in three months. As soon as the fruit is ripe the seeds are planted again so that a relatively continuous supply will be on hand all the year around. The squash is eaten only boiled; it is never dried or made into bread or cake.

Maize (awashi) of red (kuwata) and white (tamuneng awashi) varieties is raised. The seed is planted in small hills made with the hoe. While still green, the corn may be roasted on the cob in the husks; the ear is simply stuck among the hot ashes of a fire. When ripe, the kernels are removed from the cob with the hands

[1] *Dioscorea* sp.

[2] For a discussion of the probable introduction of this type of cane mill by negroes and for its distribution in South America, see Nordenskiöld, 1930, *Modifications of Indian Culture through Inventions and Loans.*

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252 and pounded in a wooden mortar with a wooden pestle to make
243 corn meal (awashi apopo). This meal may be mixed with cane juice and baked into a cake on the pan or it may be boiled and eaten hot like porridge.

245 Limes (idiyoma) are grown in the fields. The seeds are scat-
[272] tered on the ground and seedlings replanted. Lime juice is mixed with water to make a sort of limeade. Bina plants (see section on Religion) are also grown in the fields.

The papaiya (*Carica papaya*) is grown in fields and also in house
[757] clearings. The fruit is eaten raw when ripe. In the green state the rind is boiled and considered a good regulator for stomachic troubles. The leaves are sometimes dried and rolled into cigarettes,
249 alone or with tobacco leaves. Tobacco plants are grown from seedlings in the agricultural fields. (See section on Stimulants.)

In addition to the foregoing food products, the kraua grass plant is grown in the fields. The leaves of this plant resemble those of the pineapple and, as stated heretofore, are shredded so that the fibre may be used in making cord and string. It is planted from suckers in the same way as the pineapple.

244 Under the head of agriculture must be considered three other
263 species of plants which are grown, not in the agricultural fields proper, but in the clearing which surrounds the house. The pepper (pawmi)[1] is an important part of the Carib menu and together with cassarip furnishes the only condiment, with the exception of occasional trade salt, which is used by the natives. Five varieties
[824] of pepper are cultivated: poroporo, big, round, red, very hot; kawnamu, small, green; sidimya, very small and red; yanakatu, long, thin, and green; arapo, long, green (creole, lady finger). They are planted from seeds in holes made with a stick. They are cooked with meat and vegetables in the pepper pot, and are also eaten raw as garnishing in sandwiches of meat or fish and cassava
[757] bread. As a remedy for headache a feather is rubbed in the pulp of a pepper and drawn across the eyes. Pepper juice is dropped in
276 the eyes for headaches. Aremi emu (magicians) drink a mixture of pepper juice and water to induce the psychic state necessary for communication with the supernatural powers.

244 The calabash bushes are a familiar shrub in all house clearings
824 (kwa'i, calabash; kwa'yepwi, calabash bush). Four types of

[1] *Capsicum* sp.

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calabash are cultivated: a, apotonong kwa'yepwi, large, spherical in shape except for small "spout" near the stem, grows on ground vine; b, morutuku, long, like a water melon, grows on ground vine like a melon; c, pawsi, small and elongated, grows on bush; d, shi'-iyongkwa'imyako epu, small and globular, grows on bush. Types a and b are planted from seed. They are perennial. Types c and d are planted from shoots cut from a living bush. The vines bear in seven months, the bush types in a year and a half. The pap from the inside of the fruit is sometimes used as fish bait and is sometimes cooked as a vegetable, but the principal use to which the fruits are put is in dried form as vessels for liquids. (See section on Utensils.) An interesting example of sympathetic magic is the practise of tying to the calabash plants the shells of the large landsnail, which in shape and color often resemble a small calabash. This practise is held to insure a good yield from the plant.

The cotton (maru'epu) trees are also planted near the houses. They are planted from seed and reach a height of eight to ten feet. They are said to bear in four to five months. Only one variety is grown. The seeds are removed by hand from the cotton bolls and are not used for any other purpose.

A large number of foods are gathered from the forest in season. The following is only a partial list of the edible bush products.

Plums (mope)[1] — bear once a year, about January; round and greenish in color; eaten raw and boiled.

Waiti — fruit in a pod like beans, grows on tree; seeds surrounded by sweet velvety meat; three varieties: paidyowa, long pod; posindyo, small short pod, grows along river banks; anakara, broad stubby pod. The seeds are sucked, but the fruit has little food value.

Asipoko — a round reddish fruit with soft tart flesh.

Arawiya — plum-like fruit.

Sawari nuts (*Caryocar [Pekea] tuberculosa*) — the Brazil nut of commerce.

Mora seed (*Dimorphandra mora Bth.*) — in times of scarcity grated and baked into bread, sometimes mixed with cassava.

Greenheart seed (*Nectandra rodioei Hooker*) — same use as mora seed.

Ballimanni seeds (?sp.) usually eaten by accouri and labba, but used by man in time of want.

Cashew nuts (*Anacardium sp.*).

The fruit of the kokerite palm (*Maximiliana regia*).

Fruit of the ite palm (*Mauritia flexuosa*).

[1] ?*Spondias lutea.*

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341 Finally, the medial runner (otondano) is placed in position. This
335 is a pole which runs the full length of the house in the median line and is firmly tied to each of the points where a tie-beam crosses a ridge pole support (Plate 14, *a*). When the house is completed, sticks (sura) are laid from the medial runner to the lateral runners under the eaves, thus making a sort of rack or loft on which articles can be stored.

Before describing the methods of thatching roofs, it may be well to consider several variants of the above method of making house frames. In one type of house the roof frame is held in position without the use of ridge pole supports. Stability is given at intervals by the use of transverse struts connecting the two members of a given set of rafters at a distance of about two feet below the ridge pole. Additional stability is afforded by the use of diagonal struts, tied to the under sides of the rafters. In building a roof of this kind, temporary ridge pole supports are used while the rafters, roof binder, and struts are secured in position (Plate 16, *b*).

The small four-pillar house is sometimes built without the use of wall-plates. In this type of construction it will be noted that the rafters rest directly upon the longitudinal runners, which in turn rest upon the transverse tie-beams. (In the standard design the tie-beams rest upon the runners.)

342 A number of different species of palm leaves are used for thatch-
824 ing the roofs of the houses. These include truli (*Manicaria saccifera*), ite (*Mauritia flexuosa*), dallibanna (*Geonoma baculifera*), kokerite (*Maximilliana regia*), manicol (*Euterpe edulis*), tura (*Oenocarpus bacaba*), and ballidanna (unidentified). These materials do not occur in equal quantities throughout the area, so that one village may be thatched with one combination, another with a different material. Inasmuch as Roth has described with great preciseness the sundry details regarding the making of the different types of thatches,[1] I shall content myself with a general description and the mention of a few points not covered by him.

All types of thatch are attached to the rafters with the help of stringers. These are frequently made of konapuri wood (a small tree which somewhat resembles kokerite in appearance). The stringers are tied to the rafters in a number of ways, as figured by Roth, by a continuous piece of nibi which runs the entire length

[1] Roth, 1924, *An Introductory Study of the Arts, Crafts, and Customs*, pp. 265–270.

1: Gillin E-5 (1932-33)1936 SR9 Carib SR9

342 824 of the stringer. I also observed an additional method of tying stringers which differs slightly from those shown by Roth. The roof of a Carib house is covered with successively overlapping courses of thatch, each course of which is attached, as has been said, to a stringer which is in turn attached to the rafters. Thus, when roofing a house, one begins by laying a course of thatch the whole length of the roof at the eaves. Then another course is laid above so that its ends overlap the preceding course (Plate 16, *a* and *b*).

In the settlement of Sawari the thatch is composed of courses of ballidanna[1] (not to be confused with dallibanna) and manicol leaves. Two courses of manicol are followed by one course of ballidanna, which is followed by two courses of manicol, and so on. Figure 4 presents a sketch illustrating the manner in which the thatch is applied. The ballidanna course is made as follows: the stem (a) is inserted into the blade of the preceding leaf (c) to the left. (The stem of the first leaf of the course is bent back and inserted into its own blade.) Then the blade of the leaf is bent over the stringer (b) and brought down behind so that the blade of the preceding leaf overlaps the blade of the leaf just fixed. The manicol leaf is split lengthwise through the central rib, and one half is reversed so that the spears or subsidiary leaves of the one half cross those of the other half diagonally, as in the illustration (d). No stringer is used with the manicol, as the stiff central ribs of the leaves fulfill the function of stringers. Two courses of manicol are laid down, then one of ballidanna, then two of manicol. The manicol leaves cover the ballidanna leaves, so that as seen from the outside the latter are invisible as part of the thatch.

Occasionally, transverse sticks are attached at intervals directly below the ridge pole and project on either side through the thatch, serving to make the latter more stable under the attacks of the wind.

342 Usually a double capping course of manicol leaves covers the ridge of the roof.

Rarely, a large house is supplied with a fall-back or lean-to (asaru) at one end. This is composed of a section of thatched roof attached to a crossbeam (asaru apone) under the gable at one

[1] Dallibanna leaves are more or less rectangular, while ballidanna have the shape of a pointed oval; they are also somewhat smaller than dallibanna and have oilier surfaces.

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323 ing, inasmuch as no tempering material is added to the pulverized clay. On the other hand, a woman seeking a new source of supply may have to experiment with clays from several different spots before she finds one which does not crack in firing. Consequently, once a suitable clay has been found, the deposit from which it is obtained is worked repeatedly as long as the family lives within a convenient distance of it. Sometimes such a deposit is located as far as a day's distance from the settlement by trail or canoe. When the clay has been pulverized it is again mixed with water and kneaded with the hands.

A flat piece of wood serves as the tournette on which the pot is built. A biscuit of clay is made to start the base; if the base of the vessel is to be flat, this is worked into a discoid shape; if the pot is to have a pointed bottom, the clay biscuit serves as the base without being flattened into a disc. The base of a pointed-bottomed vessel is usually retouched after the vessel is completed, in order to remove the flat surface impressed by the contact of the tournette.

The body of the pot is built up with concentric, not spiral, rolls of clay. There is little that is unusual in the way these strips are applied. At the start, a low rim is made around the edge of the base of clay and is corrugated by pinching with the fingers. A ring of clay is then fitted at a bevel to this rim, overlapping it on the inside. The surfaces are smoothed inside and outside with the fingers and a small piece of calabash shell. This whole process is repeated as the walls of the pot rise. In the original smoothing, the lines of juncture are not completely eliminated, so that the pot, when its walls are complete, is again carefully smoothed with the convex side of a piece of calabash shell. In all of these processes the woman keeps her hands and the clay properly moist by frequently dipping her fingers into a small bowl of water which rests on the ground beside her.

When the form of the pot has been completed it is put aside in a corner of the house, where it is protected from rain, children, and pet animals. For several days it is allowed to dry. Then it is [824] burned upside down over a fire of wepipyo bark. Actually the pot is placed bottom up with its weight resting on the rim, and the fire of burning bark is piled around and over it. It is burned until the fuel, the quantity of which is regulated by the experience of the potter, is finished. Sometimes the pot cracks in firing, "because it

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323 has not been well dried." The proper amount of fuel must be judged at the start of the firing process. Further fuel cannot be added during the firing, as this also is said to cause the pot to crack, presumably because it interferes with the gradual rise and fall of temperature which is necessary to prevent sudden expansion and contraction.

[824] After the pot is cold, aporokune juice (unidentified) is applied inside and out. The juice, or gum, is applied raw with the hand. Then the pot is again mildly heated, and the gum is melted and can be observed running over it and seeping into the pores. It is said that if the gum is not applied, the pot soaks water and breaks. The aporokune gum gives a varnished or glazed appearance to a new pot. With use, however, the sheen disappears. For glazing, the juice of the inside bark of the tree is used, but for painting decorative designs, the juice of the outer bark is used.

323 531 Crude unformalized designs may be painted on the pot over the glaze. Whether or not a pot is painted depends upon the pride which the potter takes in her work. For this purpose, as already stated, the juice of the outside bark of the aporokune is used. It is made thick, and colored by mixing with lamp black. No other pigment is used. Different shades of brown may be produced in this manner. Clay of white, red, or gray color occurs in different vicinities throughout the area. The variety of clay color, combined with the painted designs, provides a limited diversity of decoration.

Occasionally a band of criss-cross or herring-bone decorative incisions is made around the pot a few inches from the lip. I saw no specimens in which this type of decoration took any other form. The Caribs use no other methods of decoration on their pottery than those already mentioned.

[286] Sometimes the pot is enclosed in a net of nibi plaiting, which fits closely to the surface of the vessel, and provides attachments for hanging the pot.

323 415 Plate 19, *a*, shows the various types of pots made by the Barama Caribs. These patterns may vary in size but remain essentially the same in outline. The tumai'ene (No. 1)[1] is the "buck pot," in which meat and that savory mess called pepper pot are cooked over the fire. The tuku'arimi (No. 2) is a sort of flask, always

[1]Read from left to right in Plate 19, *a*.

1: Gillin E-5 (1932-33) 1936 SR9 Carib SR9

BASKETRY AND PLAITING

285 462 ALL basketry and plaiting is done by the men, and it is perhaps in this department of material culture that the most aesthetically pleasing products of Carib handiwork are produced.

314 824 Nibi, a slender bush-rope, and mokru, a reed-like plant which grows in the jungle, provide the principal materials for basketry and plaiting. Nibi (*Carludovica*) is a vine about as large in diameter 285 as a lead pencil. For use in plaiting it is first split in half; then the convex outer surface is split off from each piece, producing a flat, ribbon-like strip, which is at the same time pliable and tough. This strip is then scraped with a knife. The preparation of the mokru (*Ischnosiphon* sp.) is not unlike that described by Roth.[1]

285 412 415 Articles made of basketry or plait-work are the following: fans, sifters for cassava meal (Plate 8, *a*), trays (Plate 22, *b*), cassava squeezers, (Plate 9, *a*) walishas or carrying baskets (Plate 22, *a*), wallets (Plate 9, *a*), pegalls or clothing containers, quakes or general utility openwork baskets. Fiber trusses are also sometimes attached to pots to facilitate their handling.

285 531 Fans are of the design and type of manufacture illustrated and described by Roth.[2] Sifters are usually of the type figured by Roth.[3] The simple diagonal design is produced by twilled weaving. Also a twilled design is produced giving the effect of a series of concentric squares with their corners pointing toward the middle of each side of the sifter. This type is known as the "turtle-back" design, the squares resembling the markings on the shell of the bush turtle. Other designs are produced by using artificially colored elements in the weaving, usually red and black. The entire surface of the sifter may be divided into four quarters by a cross of red or of black. Another design consists of a series of evenly spaced red dots over the entire surface, produced by the use of a red element. The weaving technique used in all cases is twill. The framework of the sifter is usually of yarriyarri. The basketry is attached to the frame as in Roth (Plate 21, *b*).[4]

415 285 537 Trays are used mainly as containers for raw cotton which is being spun. Occasionally cassava meal and other loose articles

[1] Roth, 1924, *An Introductory Study of the Arts, Crafts, and Customs*, p. 137.
[2] Roth, 1924, *An Introductory Study of the Arts, Crafts, and Customs*, p. 296.
[3] Roth, 1924, *An Introductory Study of the Arts, Crafts, and Customs*, Plate 71, A.
[4] Roth, 1924, *An Introductory Study of the Arts, Crafts, and Customs*, Plate 70, B.

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481 tion of the line of march, and it is not infrequent for a trail to be carried for several hundred yards from one fallen log to another (Plate 26, *a*). Shallow streams are usually waded, but deeper streams and the river are more often crossed on logs which have fallen across the water.

482 Loads are generally carried in the walishas, or carrying baskets, which have been described in our chapter on basketry. The hammock and a few cakes of cassava bread are tucked into a corner of the walisha, and armed with his cutlass and bow or gun a man is ready for a journey of almost any length with a good 484 load on his back. A party must of course always travel single file, and the eyes must be kept on the ground, in order to watch the [825] footing and to beware of snakes and dangerous insects. If a snake is met on the trail, and this is a frequent occurrence since the reptiles apparently enjoy sunning themselves in the spots of sunlight, which are more often found on the trail, one cuts a long stick, and with it throws the snake into the bush without killing it. It is considered dangerous to slash the snake's head off with the cutlass, because, it is said, the severed head frequently flies off and fastens its jaws into an arm or a leg with unhappy results.

[562] A man going on a long journey usually prefers to take his wife and children with him. In such a case each one of the travelers, except children in arms, carries a load. I, however, saw no cases of the celebrated Indian custom which decrees that the wife shall carry all the load while the husband stalks majestically, unhampered, in the van.

[825] The Indians are admirable trackers, both of animals and humans. On many occasions I have verified the uncanny ability of the natives to ascertain from footprints, which to me were hardly visible, the species of animal which had passed by, and often the individual human beings. The Indians make a close study of people's feet, and can often tell by examining the foot prints who has passed over a trail.

501 **Water Transport.** Two types of craft are used in water trans-824 port, the korial and the woodskin. The korial (Carib, koriara) is a dugout canoe, the hull of which is made from a single log of wood. Konta wood (known to creoles also as counter and silverbelly) and sorodani are considered the best materials for making a korial, as they do not sink and are not so soft that they are easily

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damaged. Craft made of mora and crabwood have come to my notice, and I am told that other woods are also used for this purpose. The tree trunk, after being felled, is stripped of bark and worked with cutlass and axe into the shape of the hull. Then a depression is hacked in the top and hot coals placed in it. These are fanned, so that the wood will be charred to a depth of a few inches, following which the coals are removed and the charred wood scraped out with a chisel made of an old cutlass. This process is repeated until the canoe is hollowed out completely and the walls are of the proper thickness. Finishing work is done with knives obtained from the trading posts. The craft may be spread or not according to the wishes and the enterprise of the owner. Struts of wood are inserted between the gunwales at the widest point and pounded fore or aft toward sections where the gunwales are closer together, thus widening the opening. It is said, although I did not have the opportunity to observe this process, that the spreading is somewhat facilitated by filling the hollow with water into which hot stones are dropped, making the water warm and so softening the wood. When the korial is finished the bow and stern each slope upward and overhang the water. The steersman sits in the stern without any support. Other passengers sit either on the bottom of the korial or on small transverse pieces of wood which are placed at intervals as seats. The completed korial is provided with a number of transverse struts, wedged between the gunwales, which must be kept in position if the craft is not to warp. Every korial carries a small calabash to be used as a bailer as it is a rare korial which does not leak. The craft range in length approximately from ten to eighteen feet. Beams range from eighteen inches to two feet. Characteristically, they are extremely unsteady and, especially in old specimens which have become warped, a fine balance and reciprocity of movement is required of all occupants. The strongest paddler usually takes the bow seat with a weaker member of the crew, a woman, for instance, at the stern. Other occupants fill the intervening places and are expected to paddle. The load of freight is carried amidships, usually covered by plantain or banana leaves to protect it from the rain. Both the bowman and the sternsman are expected to assist in the steering.

Paddles used for the korial, as well as the woodskin, are the

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work, and, by dint of long experience, every man in a canoe party knows his place in an emergency without having to be told. 502

When not in use, the korial is tied to a post or tree on the bank and kept parallel to the shore by stakes which are driven into the water against its outer side. The woodskin is usually submerged in the water when not in use, so that the bark will not dry up and curl. 504

The skill of the Carib paddlers is shown in the sport of hunting the labba (*Coelegenys* sp.). This animal comes down to the river to drink and graze at night. On several dark nights Carib men have taken me on labba hunting expeditions, the sport being enhanced for them by my possession of an electric torch light which could be flashed in the eyes of the startled beasts. In pitch darkness, and in spite of the many logs and obstructions in the river, the canoe would be noiselessly manoeuvered along the bank without prematurely frightening the labba, which could be located by the noise of its nibbling and moving about. 225

When traveling on the river, a stop is usually made for the night about an hour before sundown. Time is allowed for the building of a temporary shelter on the bank or a sandbar, and for a bit of hunting and the placing of set-lines before darkness settles down. 484

RECREATION

Amusements, Stimulants and Narcotics, Art

As a rule the Barama Caribs are a jolly folk who in the course of their everyday lives manage to have more simple enjoyment than the average member of a more civilized society. They are continually laughing and joking among themselves even when engaged, in rather arduous tasks; they enjoy entertaining their friends and being entertained, and all possible opportunities for a "good time" are seized. 181

Small girls play with dolls (myakonbokupo) made from patumo wood and dressed with bits of cotton or cloth. Boys play with toy bows and arrows, practising for accuracy and distance, and also play with tops (kuma'epipyo) made of a pencil-like piece of wood thrust through an akuru seed and wound with kraua string. Usually the tops are spun on the ground, occasionally in cotton 524 857 [824]

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249 because of the fact that worms are supposed to lay their eggs only
825 during the full moon. At intervals the soil around the roots is soaked with haiari juice (a fish poison), which is believed to kill the worms. When they have reached a proper size the leaves are
276 picked one by one. If the crop is plentiful, they are hung from the crossbeams of the house, over the fireplace, where they will be gradually dried and smoked. After being thus cured for a few weeks or months they may be twisted into coils, or "plugs," somewhat like "navy twist." Other growers simply make the leaves into small rectangular bales tied together with cord. If the crop is poor or the supply of smoking tobacco small, the leaves may be used green. In such a case, which is not infrequent owing to the improvident ways of the husbandmen, a green leaf is held in the hands over a bed of coals until it has been partially dried out and toasted a spotty brown color. It is then wrapped into a cigarette directly. In all cases the action of wood smoke is believed to have a mellowing effect on the tobacco.

Tobacco is used only for smoking purposes in the course of everyday life. (Tobacco juice is imbibed by medicine men and others on certain religious occasions, and it may be dropped in the eyes for medicinal purposes.) Tobacco is smoked exclusively
824 in cigarettes by the natives. The inside bark of the kakareli tree (*Lecythis* sp.) is used as wrapper. Every man has a supply of this bark about his house, cut into long strips about one and one half inches broad. The outer bark of the tree is removed, and the inner bark taken off in these strips. One end of the strip is beaten with a stick or cutlass in order to separate the several layers of paper-thin tissue of which it is composed. A strip of tissue thus separated can be peeled off when it is to be used, and smoothed by laying it on a flat surface and scraping it with the edge of the cutlass. The tobacco is rolled into a thin, pencil-like cylinder between the palms, and then rolled into a strip of kakareli bark ten to twelve inches long. The tube of bark is tied together at each end and in the middle by thin threads of kakareli bark, which are stripped off the edge of the wrapper. A cigarette a foot or somewhat less in length is thus made, which has a not unpleasant taste. The bark apparently mitigates the strength and bite of the tobacco.

Pipes, cigars, chewing and other methods of employing tobacco are not used by the natives.

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In the field of art the Caribs have achieved only modest results. The simple decorations of household utensils and furniture, personal ornament and decoration have been described elsewhere. A limited amount of sculpture in wild beeswax is performed for amusement. The few examples of this art observed by me were all caricatures, consciously humorous depictions of actual persons or animals, with no religious or magical significance.

Examples of musical composition and songs have been presented earlier in this section. Three general types of musical instruments are in use. The sambura, or drum, has a wooden frame with two heads of skin. Purple heart and silver belly (*Copaifera publiflora* and *Nectandra* sp.) are said to be the best woods for making the frame. A cylindrical section is cut from a tree, the outer bark removed, and the inside hollowed out with knives and chisels until the walls of the frame are about one half inch in thickness. The skin heads are made of akuri skin (*Dasyprocta aguti*) from which the hair has been removed. The original outer surface of the skin is exposed when it is fixed to the drum. The heads are each held in place by a hoop of tough withes bound about with kraua string and mani gum. The two hoops are united by a cross-string of twisted kraua fiber, which is attached in the European manner, and which may be tightened or loosened to tune the drum. Only one end of the drum is struck, and across the other, or silent head, is stretched a thin double thread of kraua, in which is twisted a small stick about the size of a toothpick. This stick, or resounder, lies against the silent skin head, and its position, together with the tautness of the two strings which support it, affect the tone of the instrument.

In use, the drum is usually held under the left arm, against the side of the body, and struck with two sticks. The stick held in the left hand strikes the drumhead near its periphery in short light strokes, while the stick in the right hand strikes the center of the head more vigorously. The most usual rhythm is short (left), long-long-long (right). The drum is provided with a length of kraua string by which it may be slung over the shoulder for carrying.

Roth says that it is probable that "the two-skin drum was introduced through the Arawak and Carib Islanders from North America, after the European invasion. Such an hypothesis would

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534 177 account for its silent end, its resounder, and its generally Spanish name."[1]

The second type of musical instrument is the fiddle. Recently traders in the area have stocked cheap European violins, which the natives have bought with alacrity and strung with cotton thread. The home-made type of fiddle is, however, constructed from [824] bamboo, as illustrated in Roth,[2] or is made from congo-pump, a soft grainless wood which springs up in abandoned clearings. All types of fiddles are strung with three cotton strings, the tones of which depend not upon their texture but upon their length and tautness. The home-made fiddle is about two feet long by about three inches wide. It is provided with pegs, bridge, and tail. In playing it, the Carib holds the tail against the shoulder rather than under the chin. It is a mistake to believe that these instruments are merely playthings used for making some sort of indiscriminate 533 noise. The Carib tunes are studied carefully, and the public is quick to criticize inaccuracies on the part of a virtuoso.

534 321 The third type of instrument is the bone flageolet. This is usually made of the tibia of the tibisiri deer. A hole is made in the [825] anterior margin of the superior epiphysis and shaped with mani gum, so that the stream of air is directed against the sharp edge of the anterior wall of the shaft. Three holes are provided at [533] regular intervals. The sounds thus produced seem to harmonize, to an untrained ear at least, with those produced by the native fiddle. (See Plate 26, *b*).

534 177 Recently traders have introduced harmonicas or mouth organs into the region, and the Indians have taken them up with great energy. The mouth organ is at present, however, used only as a noise-making device, since the natives are as yet unable to master the harmonic scale.

538 Aside from songs sung to music, another form of literary effort common among the Caribs is story-telling. A number of folk tales are presented in our chapter on Myths. These comparatively formalized tales are told less frequently, however, than are extemporaneous yarns based upon personal experiences. At the end of each day, at home or on the river or the trail, the adults lie in their hammocks for some time before going to sleep and trade yarns. These are usually somewhat embellished and exaggerated

[1] Roth, 1924, *An Introductory Study of the Arts, Crafts, and Customs*, p. 467.
[2] Roth, 1924, *An Introductory Study of the Arts, Crafts, and Customs*, Fig. 239, B.

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accounts of their experiences, and are drawn out to considerable lengths. While an individual is telling a story the listeners continually supply exclamations, a high pitched "ko-o?" or an "ao-o" with rising and falling inflection. The pattern is for listeners continually to express surprise, astonishment, and amazement at the words of the speaker. It is also customary to repeat "yao" and to grunt at frequent intervals as a means of encouraging the speaker and showing him that he is holding the listeners' attention. Speakers dramatize their material with gestures and tones of voice. Excitement or laughter grip the group as the story progresses to its climax. Most of these stories are, of course, utterly pointless in translation, but I believe that this type of story-telling can be regarded as the Carib equivalent of the drama.

RECKONING OF TIME

SPECIAL mention should be made of the Carib attitude toward the passage of time. No provision is made for reckoning the passing of the years, or for distinguishing one year from another, so that no one knows his exact age. The term for year is "siditcho," meaning "star," and referring to the seven stars of the Pleiades, which pass over the heavens once a year. Aside from these I have found little evidence of star lore among the Caribs. On the Barama it is said that one knows that the end of the year has come by noticing that certain wild fruits, such as the sawari nut, are ripe and are dropping to the ground. The present month is distinguished from the preceding and following ones by reference to the phases of the moon, but beyond this calculations seldom go.

When a man leaves home for a journey, he specifies the number of days he will be gone by giving to his wife a cord in which a knot has been tied for each day of his absence. The wife unties one of the knots each day that he is away, and expects him to return when the cord is finally knotless.[1]

The time of day is reckoned by the position of the sun. Thus, when asked how long will be required to reach a given point, an Indian will reply by pointing to the position which the sun will occupy when the destination has been reached.

[1] For the distribution of this device in South America, and its connection with the quipus of the Andean area, see Nordenskiöld, 1930, *Modifications of Indian Culture.*

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794 If you wish to become a kanaima, you establish contact with a kanaima headman, who can usually be found hiding about in the bush. He teaches you the art. During the novitiate you sleep at home, but spend your days in the bush with your teacher. You are taught to enter houses without being seen, to twist joints and manipulate bones, to benumb the senses of your victim, and so on. One of the disagreeable features of the cult is that the members find the habit of evil doing difficult to break, so that after accomplishing the original purpose of revenge, the kanaima [691] continues to practice his outrages on innocent victims. For this reason, kanaimas are feared and may be killed on sight by all normal persons.

794 824 Kanaimas lead an abstinent life. They eat no meat, with the exception of the djokoro (dukwaru) bird, which, because it is not easily seen in nature, is believed to make them invisible. Other meat is believed to make them heavy footed. They eat a pimpler palm called kosako because doing so causes the kanaima's victim to have the sensation of being choked and pricked. They eat rupe, a white fungus which grows on dry wood, because it makes them light so that they can run fast. They drink only rain water which has collected in the hollows of leaves; creek water is not imbibed because it is running too strongly and makes the kanaima lose control of himself too easily, while the rain water is clear and makes him clear headed. At night they rub their skins with pepper, instead of building fires to keep them warm. As a result of these austerities, it is said that no animal will eat the body of a kanaima, the flesh being too rank.

794 754 [824] It is believed that kanaimas roam about the bush waiting for an opportunity to waylay a victim. Across the trail they stretch a spider web on which is rubbed the juice of a plant called kuraru. When the victim touches the web, he falls as in a trance, whereupon the kanaimas leap upon him, twist his joints, and stretch his tendons. They also carry a black powder made from the dried powdered root of a plant called masi. This powder, put in the mouth of the victim, makes him cough and sneeze and get a cold. If it is swallowed, the viscera decay. Victims usually do not remember enough of their experiences to talk about it afterward, but to prevent any possibility of betrayal, the kanaima may pierce the tongue of the victim with a snake's fang which he

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carries for the purpose. When they have finished their work, the kanaimas disappear, leaving their victim to regain consciousness alone. After a time he picks himself up and goes home where he soon develops fever, has aching joints, and speedily dies. Due to the fact that he cannot or will not talk, the unfortunate sufferer's friends and relatives are able to obtain no particulars which would enable them to seek out the kanaimas. The work of the kanaimas can, however, usually be recognized by the blue finger marks on the body of the victim, bruises left by the kanaimas while manhandling him.

There is no cure for the fever and "bone ache" resulting from an encounter with kanaimas. The kanaimas must simply be avoided. A small beeswax image made in the shape of a man, if carried in the bush, enables one to spot the anaesthetizing spider web, and often the kanaimas themselves, before harm can be done. A certain plant with roots resembling a closed fist, if hung in the house, frightens kanaimas away. As an antidote for the black masi powder taken internally, the slimy inside bark of the congo pump tureke is made into an infusion and drunk. (Sarusaru congo pump is not used for this purpose.) If the kanaima has put the powder on the victim's skin, the black banana sucker (mekuru myu) is pounded, soaked in water, and applied to the skin. After the kanaima victim has died, further precautions must be taken. The kanaima, to complete his task, must visit the grave and suck the waters of decay from the body, usually through a hollow reed which is inserted into the ground. If the kanaima does not succeed in drinking the body liquids he will die a horrible death; they purify his body in some way after the perpetration of the outrage. To forestall the kanaima, the body may be wrapped in the leaves of the small banana (puma' bu), which are poison for kanaimas, but not for other persons. Or the juice of the haiari (a fish poison) is mixed with some of the body waters and placed in a bowl on the grave. A kanaima's one aim at this point is to drink some of the body juices, however this may be accomplished. Finding in a bowl on the grave some of these juices, the taste and odor of which completely obliterate the slight acridity of the haiari, the kanaima is believed to drink unsuspectingly and thus be deceived.

In comment upon the beliefs regarding kanaimas, it must be

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776 piaiyen usually has contact with one or more tiger spirits, who may
791 be used by him to discipline the less ferocious spirits of his circle. The tiger spirits are believed to be the ghosts of dead tigers. All other animals also have spirits, which become ghosts upon their
[824] death. Boba root is used by the hunter as a protection against the spirit of any animal he may have killed. For instance, if he has
[789] killed a tiger or any other animal which has a dangerous spirit, he scrapes the roots of the boba tree and makes a salve which he puts on his skin. Then he crawls under the buttressed roots of any large tree. The boba salve is believed to entangle the spirit of the dead animal so that it can do no harm to the hunter. In crawling under the roots, the hunter scrapes the spirit off himself. Animals
[805] are also amenable to the machinations of spirits of beings and orders in addition to the tiger spirit. Thus, a dog that barks in its sleep is believed to be suffering from the interference of spirits. However, the only way in which a member of one of the five major classes of nature spirits can be killed (i.e. removed from interference in worldly affairs) is by being devoured by a tiger spirit.

776 Each cassava field is watched over by a spirit of the cassava
241 called Piuku. The precise connection between this being and the Ume or hill spirits, is not clear. It is believed that each hill in the bush is under the care of a group of Ume, who after the field is cut and cultivated, apparently abdicate in favor of the Piuku. The Ume live in a settlement of their own under the hill, which serves as a roof. The Piuku is not a member of the Ume order, but nevertheless it is not unfriendly toward the Ume. An abandoned field reverts to the Ume spirits, and in the rare cases of fields without cassava no Piuku is present. It is not believed, on the other hand, that each separate cassava plant has a spirit of its own, nor are the other plants of the field associated with spirits. Piuku is thus a sort of agricultural deity especially associated with cassava plants. Concerning the manifestations of the Piuku to human beings, an informant said, "Once my wife and I were digging cassava in a field. Nearby I hear a groaning m'm'm'm. I do not know what it is so I go to the piaiyen and he says it is the Piuku." Another informant said, "The piaiyen told me the Piuku is like a big white man big head, broad shoulders. Has a white skin covered with shiny buttons, but wears no clothes," a belief which is obviously acculturated.

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However, each tree in the bush is believed to have a spirit of its own (wiwi akuru: tree spirit) which must be placated when the tree is cut. When cutting a field, care is taken to pour a mouthful of cassiri on each stump. In return for this mark of respect the spirit formerly inhabiting the tree may remain in the vicinity, exercising a benevolent supervision of its old location until it finds a young sapling in which to take up its residence, or it may leave immediately for a new residence. If an offering is not made, the spirit of the felled tree will lurk about in an angry mood and bring trouble to the crops. Adolphus Topy, the headman at Parapimai settlement, says that he often hears the spirit of a large felled tree talking. It sounds like a man speaking at a distance.

A man must not sell a korial (dug-out canoe) immediately after he has finished building it because the spirit of the tree from which it is made will become vexed and cause the craft to warp or crack. However, if a proper offering is made when the tree, from which a korial is to be built, is felled, the spirit of the tree will come to the builder in his dreams and show him how to make the korial successfully. When a man finally does sell one, he places the goods which he received for it on the stump of the tree for a night. In one case, at least, the payment was even placed on the stump of a korial tree when I rented a korial from an owner for a month. No ceremonial, however, attends the actual construction of a korial.

When a bow is made, an offering must be left on the stump of the tree from which it was cut. If, however, the weapon is made from a fallen tree which has no visible stump, no offering is necessary because it is believed that the spirit is already gone.

The silk cotton tree (*Bombax* sp.) is distinguished from other trees by the fact that it harbors a number of spirits, including a special being which lives only in silk cotton trees (kumaka akuru). Other trees, with one exception, have only one spirit attached to each. When questioned, the Caribs reply simply that the silk cotton tree has a number of spirits because it is the biggest tree in the bush. Caribs refuse to cut down the silk cotton tree. The generally stated opinion is that this deference to the tree is due to the hardness of its wood, which breaks axes used to chop it. David of Sawari said that the axes were broken because of the strength of the spirits in the trees. MacDonald of Powis Hill sug-

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824 776 gested that even if one succeeded in felling a silk cotton tree, it would be impossible to placate the many spirits in it. Concerning the parallel with West Africa in regard to the beliefs about this tree, Roth says, "the superstitions concerning (this) have been incorrectly surmised as communicated from the negroes to the Indians. . . . The superstitions of the *Bombax* were cherished in Middle America long before the arrival of the negroes: the Mayas of Yucatan spoke of it as the Tree of Creation, etc. under whose shade the spirit of mortals reposed."[1]

Another plant which possesses plural spirits is the washine, a species of bush rope which twines around the trunk of a host tree, completely hiding the latter, which usually dies and rots, leaving the washine standing upright with a hollow tube where the trunk of the host originally stood. The washine is thought of as a "strong" plant, inasmuch as it is thus able to strangle full grown trees, and it may be on account of its strength that it is credited with more than the usual single spirit.

It is related that "in old times" the people were being killed by the tree spirits which were then visible. They used to come and kill people by hitting them on the head with a sort of adze-like claw. People built fires under the trees and smoked out the spirits. The latter could be heard sneezing and coughing in the branches of the trees. The young spirits fell down and were clubbed to death by the people. Then the trees fell down and the older spirits escaped in the smoke. Since that time the tree spirits have been invisible. Originally they looked somewhat like people, although they had the peculiar type of claw mentioned above. Tree spirits were not covered with hair as are epos.

[791] It is said that a piaiyen who wishes to do harm to an enemy can talk with the spirits of certain trees which, when the individual in question is near enough, will cause their trees to fall over on him. This is, of course, an animistic rationalization of accidental deaths caused by falling trees.

776 The stream spirits or Makai Abani may be divided into those which inhabit the creeks and those which live in the rivers. The latter are sometimes specially designated as tona kanoko (water inhabitants). The creek spirits are thought of as being lesser members of the family which includes all the stream spirits. There is

[1] Roth, 1915, *Animism and Folk Lore*, p. 229.

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776 coals, which enables human beings to locate the epos in the night time. There is little evidence to show that in the Barama country the epos are associated with natural species or features of the environment in the same way in which, for instance, the tree spirits are. They seem to be free spirits of the bush, bent for the most part upon mischief. And from the point of view of holiness, they seem to occupy the lowest rank in the order of Carib supernatural beings. They alone can be seen and conversed with by laymen, and their nearness to ordinary mortals decreases the amount of respect paid to them in comparison with other spirits. A man may match his wits with an epo with a good chance of emerging the winner. As illustrated in Myths 7 and 8, men may sometimes play very uncomfortable tricks upon them. Thus the epos are the clowns of the Carib pantheon, spirits with whom men may carry on a good-natured, though serious, competition in the bush.

Certain other supernatural forces remain to be discussed later under the head of magic.

775 **Ghosts and Death Customs.** In addition to the spirits described above, which lead an independent existence, a second class of supernatural beings is concerned to a certain degree in the affairs of mortal men, namely the ghosts of human beings.

764 322 When an individual has died the body is dressed in the person's best raiment and ornaments. A coffin is made of wood. Informants agree that the use of a wooden coffin is an ancient custom and that it has not been introduced by missionaries or other outsiders.[1] The coffin is most often made of upaiya wood (unidentified). Some informants say that upaiya wood is used exclusively for this purpose, and that coffins are made of no other. Others say that any wood or an old korial may be used. In cases where the coffin is made especially for the purpose, that is, when an old korial is not used, it is made of a tree trunk hollowed by the same process used in making a korial or a cassiri barrel. It is provided with a lid of wood, and the inside is lined with fresh leaves. A grave three to four feet deep is dug in the floor of the house occupied by the deceased (grave: munano). Burial takes place usually within twenty-four hours after death, although in some cases it is postponed until the second day. In former times, it is said, the sur-

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[1] Two negro prospectors who died during my stay in the area were buried in shallow graves without coffins.

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778 tabus results in the failure of the bina to produce the desired
224 results. On the fourth day the man goes into the bush, but merely
825 looks for game and does not shoot anything. If during this stroll in the bush the man sees much game, he shoots a dukwaru bird (regarded as very hard to see in the forest), takes it to the nearest creek, crushes it, and washes his entire body, using the crushed meat of the dukwaru as he would use soap. Then he fishes until he catches a small silver-colored fish called muroko, and on the river bank crushes it and again washes himself, using the macerated body of the fish as he would use soap. It seems that the dukwaru and the muroko are considered to be the first fruits of the bina power. If these provisions are carried out faithfully, good luck will attend the efforts of the huntsman.

In addition to the krapo, the aruko worm is used as a bina. It is a tree worm of the centipede type, about four inches long, as big around as a man's finger, and is especially distinguished by the red and white marking which encircles the body. The red marking is apparently the explanation of the choice of this worm as a bina, as in the invocations which accompany its use, the worm is asked to give the hunter power to streak with red the bodies of the animals which he hunts, in the way in which the worm is colored, presumably referring to the blood which the hunter hopes to draw from his quarry. A man finds one of these worms in a tree, dislodges it with a stick, and takes it home wrapped in a leaf. In his house he chars it over the fire and makes it into a black powder, which is then rubbed into cuts in the arm, in the manner followed with the krapo bina. No slime or liquid from the worm is rubbed into the incisions, however, as was the case with the frog. The period of tabu following the completion of the bina is only one day in this case.

As far as I was able to discover, the krapo and the aruko worm are the only members of the animal kingdom used in making binas.

778 A large number of plants are used as binas. I have made no
824 attempt to exhaust the lists of plants used for this purpose.
224 All plant binas are used as charms to assist the hunter in securing definite types of game; that is, each bina is efficacious only in the hunting of a certain species, and is chosen because of a resemblance, fancied or real, between some part of the plant and some

1: Gillin E-5 (1932-33) 1936 SR9 Carib SR9

part of an animal in question. Practically all of the plants used have non-woody stems and large leaves. The use of these binas is secret, it being believed that discovery destroys the effect and sometimes causes serious consequences. A considerable element of trial and error is present in the choice of plant binas. A man hunting in the bush will notice a plant of which the leaf, for instance, resembles the hoofs of the red deer. He will dig up the plant with his cutlass and carry it home, where it is not likely to be seen or touched by other persons. Whenever he goes out to hunt he repairs without being observed to the spot where the plant is growing, picks a leaf, crushes it, and rubs it vigorously over the scars of his krapo bina. Burning or drying the leaf before using, contrary to the condition of animal binas, diminishes the power of a plant bina more quickly. While applying the bina to his arm the man recites an invocation something like this: "ikali-mako-moko-tuturarari-iwa" (lit: "you give him — you are bina") In some cases it is the root which is used, again it is the stem. In any case, the part of the plant which bears the alleged resemblance to the animal desired is used for bina purposes. If the use of a certain plant does not bring the desired results, it is discarded, while plants whose use is attended with good luck may be used for years. Most men have a collection of plants, each of which is efficacious for procuring one kind of game or fish. And a man usually uses several binas before starting on a hunting expedition, so that he will be prepared to deal with as many kinds of game as possible.

Associated with binas are a number of tabus. When using one of these charms on hunting expeditions the proprietor of the bina must always be careful to sling his hammock up over a beam of a house, where it cannot be touched accidentally by anyone in his absence. If any other touches the hammock, the bina will be useless in hunting. Furthermore, a man while using a given bina plant, that is, while he has it in his field, must not sell his bow and arrow or gun, although others may borrow them. These restrictions are important, the theory being that when a man uses a bina he becomes associated in a sort of partnership relationship with the supernatural power represented by the bina. This power becomes joint owner of the man's hammock and hunting weapons. There is a difference of opinion as to just what the power is which

133 into the Barama at about 450-500 feet above sea-level and has a diminishing gradient of a little over two feet a mile to the top of the Great Falls which drop eighty to eighty-five feet in a distance of about half a mile (Bishop 1941:7). The plain is interrupted by the outcropping of the gneiss-granite bedrock to form the Frasier Falls. About thirty-five miles above Towakaima, the Frasier series of rapids are about two miles long and present a very small total drop (Bishop 1941:4). The Upper Barama River is fed predominantly by tributaries on its right (south) bank. These tributaries follow the grain of the gneiss-granite bedrock and are mainly blackwater creeks which have a low potential for human exploitation. Such creeks are dark brown in color due to oxygen deprivation caused by decaying vegetable matter which also releases carbonic and humic acids (Meggers 1971:12).

13 Thus, there are three local micro-environments which yield biotic
182 resources for human use. These are the river system, the naturally
241 occurring rain forest, and the man-made fields of cultigens. From these, floral and faunal resources are exploited.

Floral Resources

• 824 Local vegetable foods are those that occur in the forest and those
241 that are cultivated. However, there is no clear line dividing the two. The slash-and-burn horticulture by which vegetable foods are obtained is a modification of the rain forest. The cultigens are integrated into the forest in a way that they temporarily replace its floral community (Geertz 1963:15-28; Meggers 1971:19-21). From the

824 241 direct plant-to-plant cycling characteristic of the rain forest floral community, energy is diverted for human consumption. The diverse floral species are replaced with species selected to yield food sources. Fields are prepared and maintained in keeping with this use.

242 241 The soil is selected with regard to its role as a support for the plants. A preferred site is a hillside. The gradient allows for drainage. Also, a mixture of sand and clay will deter the water retention which would rot root crops in predominantly clayey soil. The clay component of this mixed soil protects the seeds and young plants from the full impact of heat from direct sunlight. Only a small field, about one acre, is usually cut at one time. Field shapes tend to be circular. Tall trees are left on the periphery to allow partial shade on the seeds and young plants.

241 [221] [132] The cutting is done to allow burning just before the rainy seasons that occur from November to January and from May to July. Planting follows burning. Previously, fire and stone-edged implements alone were used. However, iron-edged tools are now common in the Upper Barama area. Digging sticks for planting seeds remain in use.

241 412 [372] *[177]

241 The different cultigens are intermingled, making use of micro-environmental conditions. For example, sugar cane plants may be located to take advantage of a few square feet along a creek bed. Pineapples may be placed in an ash line. Young tobacco plants may be located to be partially shaded by a stump until mature enough to tolerate the sun.

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241 To stagger the harvest, planting occurs over a period of time. However, once planted a field is rarely tended. Trips are made only to harvest foods as they are needed. As grasses choke the cultigens, a new field is cut. This happens about every two or three years.

241 137 *177 Over time, new additions have been made to this intermixture of species in the fields. These have come from several sources. Table 1 includes a list of the plants Gillin found growing in fields and by house sites in 1932-33. Of these, banana, plantain, yam, eddo, sugar cane, and citrus fruits were introduced to the New World by Europeans (Gillin 1948:825). Obviously, the Barama River Caribs do not recognize these origins. In 1970-71, there were many additions to Gillin's list. The ones which have been introduced from Georgetown are recorded separately in Table 1.

241 824 Also, in 1970-71, naturally occurring forest species were found in the cultivated fields. As the cultigen community is a duplication of the forest flora community, this reflects simply a change of location convenient to the human consumer. Thus, the boundary is merged between the cultigen community and the naturally occurring floral community. All local vegetable food sources are available from energy captured from the cycling of energy within the rain forest flora community, or a duplication of it.

241 *177 654 This integration of food production within the extant biotic community has only recently been altered. Fields convenient to locations of outside resources have been weeded and replanted for up to ten years. The new agricultural methods introduced by the government emphasize the single cash crop grown on a larger, exposed

[TEXT CONTINUED ON PAGE 13]

field. Individuals have cut extensive fields to support their competition for the office of Amerindian captain. The impact of these recent departures marked by the increased escape of energy from the local forest ecosystem as well as the deterioration of the exposed soil through laterialization at some point will impose limiting factors on the agricultural development of the area.

The forest flora which is gathered for food and other uses is to some extent defined by individual knowledge. The identification as well as the preparation are knowledge held by a limited number of people. For some fruits, nuts, and roots no commonly known name exists in the Carib language. This follows from the nature of the food quest. An individual is constantly searching out these vegetable foods during the course of his daily activities. Consequently, the list of forest flora foods must remain partial. Those recorded by Gillin and additions made by 1970-71 field work are presented in Table 2.

Faunal Resources

The faunal resources from the forest are recorded in Table 3. Those reported by Gillin are presented first, then the current additions. As the 1970-71 list was collected in the air strip vicinity, the additions reflect a more careful scouring of the available foods as a result of a heavier concentration of population in one location. On an individual basis, taboos against eating monkey and tiger (Gillin 1936:10) have been abandoned. Also, this list cannot encompass the many sporadic and minute sources. A person

[TEXT CONTINUED ON PAGE 16]